

An
Inaugural Dissertation
on the
Stomach
its
Functions, Diseases, and Sympathies

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My dear Sir

I have the honor to acknowledge the receipt of your letter of the 10th inst.

The Stomach its Functions, Diseases & Sympathies

One of the great distinctions between Organic and Inorganic matter is the provision of an Alimentary system, the increase in bulk of inorganic matter is owing to external causes acting under the known laws of Chemical or Mechanical aggregation and accretion, but in Organic matter very different is the case, here it depends on an internal mechanism of which we know the structure the laws that govern it are still to be developed —

The Alimentary system appears to be the great and primary source of this internal mechanism or as Bichat has very appropriately termed it "Internal Life" from it is derived all the sustenance and vigor of the rest of the body, it may be termed the primary link of organization and life and to be an absolute requisite of organic being —

We find as we descend in the scale

of creation this alimentary organisation becomes gradually less perfect, and less complex —

In the lowest order of organised life with which we are acquainted, the Vegetable, it is extremely simple consisting merely of a congeries of absorbing canals, and these so very minute that by some their existence has been doubted, that these vessels by some power inherent in the plant fluids are capable of being propelled and of passing to every part; when either by assimilation they increase the growth of the vegetable or are thrown off by processes to us unknown —

Next in the link of animated nature at present known to us, we find the numerous and diversified orders of Polyps and Zoophytes in these the Alimentary system becomes more distinct and perfect, but still it merely consists of a membranous bag or Stomach, constituting however the principal bulk of the animal, this bag has only one orifice consequently the

Food is taken in, and excrementitious matter discharged by the same passage, none of the rest of the Chyliferic Viscera are distinguishable, when however arrived at the clap Viscera, we find the Animal more capable of locomotion and the digestive organs more complex, here this membranous bag is considerably lengthened and convoluted, and has two orifices - the food of these clapes of animals must of necessity be very simple and as in plants require little more than mere assimilation -

In the finny tribes many of the digestive organs are to be met with, they possessing in addition to the stomach and intestines a Pancreas, Spleen, and Liver.

After arriving among the Reptilia there is apparently no addition to the number of the Chyliferic Viscera, but their influence over the system becomes gradually greater, till we arrive at man where we find them exerting the greatest command over the system.

every part, even the most remote sympathizing with them, they do not however in size bear the same proportion to the body that they did in the lower orders of creation - man being a sentient and discriminating creature is able to select his food and capable of choosing the most nutritious, therefore so large a space is not requisite for its digestion, still however what it loses in bulk, it gains in sensibility importance and power -

The Digestive are among the first organs that are formed in the Fetus in utero, they constitute one of the most vital departments of the human frame, of these the Stomach confessedly most strongly attracts our attention, here the first great changes take place in the important office of digestion, it is the most susceptible of being acted on by apparently trifling causes and when thus affected powerfully influences the rest of the system -

a diminution of its energy or any derangement in its functions is immediately felt throughout the whole human frame. —

In treating of this important and vital viscous I shall consider its Functions, Diseases and Sympathies as operating on the other parts of the human body.

Functions of the Stomach

The great and important office that the Stomach performs is that of Digestion or rather that part of the process termed Chymification.

How this change of food takes place has long been a subject of dispute among Physiologists some, contending that it resulted from a Chemical action, some from mechanical force and others from a vital agency inherent in the part, the last of these appears to me the most plausible and approaching nearest the truth, still however that a

chemical action to a certain extent does exist cannot be denied for we find that when in a state of disease, and the vital power is weakened that a chemical action takes place in the food received into the stomach; the Gastric liquor also exerts some chemical agency on the aliment when in this viscus, but it requires the union of the vital principle to accomplish this, as out of the body or removed from the sphere of vital action no such effect is produced on the subjection of elementary substances to its influence.

Some of the advocates for the purely chemical doctrine adduce the fact of the stomach having been found after death to have been corroded by the solvent power of the gastric liquor, but even admitting the fact we have no evidence that any substance resembling Chyme was formed, to do this the presence of the vital principle appears to absolutely indispensable; one strong objection to this chemical or solvent power of the gastric fluid is the fact

of the existence of worms in the stomach, was this fluid so universal a solvent, we should suppose that they would be effected by it, but such is not the case — the sudden change that aliment when goes when received into a healthy stomach it is alleged must depend on a chemical action — but that in this the vital power has considerable influence, I feel convinced, we do not find as great and sudden changes produced out of the body when the gastric fluid is poured on any aliment —

This gastric liquor is derived from glands situated in the mucous membrane of the stomach, we know but little respecting this fluid except its effects although many attempts have been made to ascertain its constituent parts by Spallanzani, Tope and others it is highly probable the liquor they obtained was by no means pure but mixed with saliva and other foreign matter —

During the process of chymification there is an increase of heat in the stomach, can it be

abstracted from the rest of the system! and hence cause that shivering that is frequent after a hearty meal! there is a greater quantity of blood thrown through the arteries of this organ whilst the chymifying process is going on than at other times this may be one source of the increase of heat.

During this process there is also a greater motion of the stomach appearing to depend on two causes, one derived from its firing more strongly against the Diaphragm and is thus acted on by the organs of respiration, according to Dr C. Thom there is likewise a considerable action of this viscus itself, he observes that when food is received into the stomach its muscular fibres contract and by this means divide it into unequal parts the larger at the greater curvature, this he denominates the Cardiac and the lesser the Pyloric, by this separation the food is detained in the greater division till it has been acted on by the juices secreted in this cavity, after

being thus changed, the contraction ceases and the food passes into the absorption. —

We have not yet sufficient evidence that this process takes place judging from the minuteness of the muscular fibres of the stomach we should suppose that they were incapable of so great an action —

The whole system participates in the important process that is carrying on and concentrates all its forces to this point, a slight chill is often felt, the pulse acquires quickness and a species of fever is excited, this is particularly observable in delicate persons, and in those in a state of disease it is far more distinct, how much is a paroxysm of fever augmented after filling the stomach with food!

The period of time employed in this process is various, depending on the state of the system and nature of the food, in a healthy state however it is supposed to occupy about

After the aliment taken into the stomach is thus changed into an homogeneous body it passes

out of the Pyloric orifice into the duodenum, where it undergoes still more changes, the consideration of which are however irrelevant to the subject of this essay -

In one respect the stomach requires the assistance of a mechanical force all substances must be reduced from a solid form by mastication or otherwise, before they are presented to it, without this it is excited to a too powerful and injurious action pain is experienced in this viscus, flatulence and sense of weight follow, and what is eaten, altho with appetite does not allay the craving sensation of hunger as completely -

Diseases of the Stomach

On each of these I shall but briefly touch, a full description of them would lead me far beyond the limits of an essay of this character —

1.

Diseases of Function

Dyspepsia forcibly arrests our attention as the most prominent of these — the chief symptoms are, nausea after taking food, vomiting, great depression of spirits the appetite often depressed soliciting the most nutritive articles, as chalk diet etc — but from the intimate sympathy of the stomach with the rest of the system this disease assumes as many forms as the fabled Proteus —

Causes are various any thing that weakens the tone of the Stomach either directly or by sympathy.

Cure is often perplexing and in so great a degree depends on peculiar habits of the body, that it renders any settled plan of treatment useless, although by Emetics & Purgatives followed by Tonics

Character of the climate

The climate of the island is very healthy and agreeable. The temperature is moderate and the air is pure. The humidity is not excessive and the winds are fresh and brisk.

Character of the vegetation

The vegetation of the island is very rich and varied. There are many species of trees and plants, many of which are found nowhere else. The soil is fertile and the climate is very favorable for the growth of the vegetation. The island is covered with a dense forest of tall trees and the ground is covered with a thick carpet of moss and ferns.

Continued

Character of the soil

The soil of the island is very fertile and rich. It is composed of a mixture of sand and clay and is very productive. The island is covered with a dense forest of tall trees and the ground is covered with a thick carpet of moss and ferns.

Character of the water

The water of the island is very pure and clear. It is free from all impurities and is very healthy to drink. The island is surrounded by a deep sea and the water is very deep and blue.

of which the Bitter and Chalybeate seem to answer best, with a strict attention to diet we often succeed in curing it.

Cardialgia. this seems to arise from a secretion of acid matter that produces the disagreeable symptoms attendant on the disease.

Our remedies are Emetics the Alkaline and retaceous medicines.

Gastrodynia. This disease appears to depend on something indigestible taken into the stomach or to cold applied suddenly either to this part or even to the surface of the body - Our remedies are the antispasmodics, emetics diluting the stomach with warm water, the application of warmth externally to the Epigastric region, Sinapisms and Venesection, this last remedy in the cases I have witnessed, was not as efficacious as the nature of the disease would a priori have indicated it never reduced the violence of the spasms until it was carried to very copious extent.

Pyrosis. This appears to be only an aggravated form of Cardialgia, in which vomiting of the irritated secretion takes place, it is said to occur most frequently in those that live on a low and ferocious diet - the remedies are much the same as for Cardialgia. Opium has been highly recommended by Cullen - the oil of Amber is also said to be very efficacious - Nausea. This depends on a variety of cause - The great indication of cure is to quiet the irritability of the stomach - Lime water and milk, Effervescent draughts the aromatic tincture warm opiating poultices to the Epigastrium, Opium pills that have been made for a long time and a variety of other modes have all been recommended to remove this distressing complaint -

When it depends on indigestible matter evacuating the contents of the stomach is the most beneficial plan of treatment -

2.

Diseases of Organisation

Of these I shall glance at but two viz Gastritis and Hematemesis —

Gastritis. There are two species of this disease the Phlegmonous and Erysipelatous, the last rarely comes on, except in the last stages of malignant fever.

Causes the phlegmonous is excited by all the ordinary causes of inflammation, particularly cold, acid substances taken into the stomach, by blows on the Epigastrium —

Symptoms sensations of acute pain about the Sternum cardiacum, soreness to the touch, tension of the abdomen, prostration of strength, pulse small hard chorded; it runs its course very rapidly, and towards the end of the complaint these symptoms are greatly aggravated.

Cure Our great reliance is on copious Venesection, in this disease very little regard should be paid to the apparent state of pulse, large blisters over the Epigastrium. Much poultices are also said to be very efficacious, keeping the bowels open by purgatives or injections

is of the greatest importance, in the latter stage of the disease the Spirits of Turpentine in large doses is very efficacious —

Hæmatemesis. this disease is often confounded with Hæmoptysis, however by attending the difference is very distinguishable — in Hæmoptysis the blood is discharged by ^{coughing} ~~vomiting~~ in Hæmatemesis by the action of vomiting, in the latter also the blood is dark and grumous and mixed with the contents of the stomach, in the former it is florid Causes are various as blows on the Epigastrium, hard drinking, by the violent action of Emetics, the sudden applications of cold, it also occurs by metastasis from another part as the uterus or lungs.

Treatment. depends in a great measure on the state of the system, if the pulse is excited venesection is especially called for, Sugar of Lead, Lixivate of soda, and Alum in solution have all been advocated, the Tincture of the Lixivate of Iron has also excited some attention in these cases. If it depends on the suppression

is of the great importance in the latter stage of the
disease the spirit of instruction in the
very beginning

It is to be seen that the same is the principle of the
instruction in the beginning of the disease. The
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same as the instruction in the latter stage of the
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of the Catamenia or any of the other customary discharges of the body, restoring these will be the best means of regaining a healthy state of the stomach.

Sympathies of the Stomach

The Sympathies of this organ, are confessedly more numerous than those of any other part of the Animal structure, there is scarcely any part of the human frame that does not feel its widely pervading influence.

I shall consider them under the heads of sympathy with the Skin, Brain, Lungs and lastly with the system generally, all these are no doubt reciprocal, but it is particularly worthy of observation that a sympathetic action of these parts derived from the stomach is stronger more direct and instantaneous than that commencing in these parts and then affecting the stomach.

1. With the Skin. Between these two parts of the animal economy there exists the strongest sympathy, we find Eruptions produced by cold suddenly applied to the skin and in the case of this disease how much do we

depend on an impression made on the external surface of the body, a moderate degree of cold is a stimulant to the stomach and excites appetite, heat on the contrary appears to relax the tone of this viscus in the same degree as it does the surface of the body, this is one great reason of the prevalence of gastric affections during the summer season, perhaps even more so than any improper aliment taken into the stomach.

Almost if not all the cutaneous affections can be cured by an impression made on the Alimentary Canal in some we are obliged sedulously to attend to attend to this part of the system, indeed the origin of many appears to be some disorder of the stomach. In all the diseased affections of this sensible organ the exerting a counter irritation on the skin by means of baths rubefacients and Diaphoretics is admitted by most practitioners to be one of our chief means of cure, that these diseases are brought on as often by sudden changes of atmospheric temperature, as by

causes acting in a direct manner on the stomach must be the observations of all that have seen much of these complaints. If therefore the digestive organs can be thus sympathetically affected by causes acting on the cutaneous system, the great utility of placing reliance on remedies addressed particularly to the skin must be obvious.

2. With the Brain. with this important part of the human frame the stomach exerts a very strong reciprocal sympathy -

From severe blows on the head nausea and vomiting often are excited, surgical writers detail innumerable instances in which these have occurred, they not only produce immediate effects on the stomach, but severe chronic affections of that organ have supervened. In Hydrocephalus a severe affection of the stomach almost invariably takes place.

Dissections have proved that in almost every case of Mania (in which the Viscera were examined) the digestive organs were very visibly affected - In mania a Poter we have the fact of this derangement of the

of the stomach producing a violent effect on the brain strongly exemplified and by adding our remedies to the stomach, the best of which appear to be emetics, we are enabled to conquer the disease of the brain. In this disease the stomach in all the cases that I have seen has been loaded with a collection of foul matter.

I would not wish to have it supposed that I consider a disordered state of the chylopoietic organs to be invariably or even the most general cause of Insanity, but that it is oftentimes so and that remedies particularly adjoined to that part of the body have great effects in curing or at least materially palliating the disease will scarcely be denied.

Hypochondriasis sometimes arises from a disordered state of the alimentary system, in this disease the focal evacuations strongly denote a morbid action existing in the stomach and intestines, we will in some instances find that the attacks of Mania are preceded by pain about the precordia or some other indication of a disordered state of the stomach, as a foul tongue, one

generally coated with a viscid phlegm.

Apoplexy is I suspect often caused by some derangement of the stomach, it is rarely that we cannot trace it to some debauch in eating or drinking it is a disease that attacks drunkards more frequently than any other class of men in them we know that the stomach is invariably greatly disordered it is on this account that Emetics have proved so useful in this disease -

Those habitual headaches to which many are so liable are more successfully treated by Emetics than by any other plan, indicating their origin to the stomach.

3. With the Lungs the sympathies of these organs with the stomach appear less distinctly marked than those of which I have already spoken, but still there exists a considerable sympathy between them -

We have cases on record in which a disorder of the digestive organs has produced a species of Pthisis, this according to Dr Wilson Phillips most generally attacks drunkards and those that have long been subject to Dyspepsia, he observes that there are two species of the

disease one in which the stomach is primarily affected in the other the Lungs, the former he remarks occurs most frequently, as the tendency of a disease of the digestive organs to spread to the Lungs is greater than from the latter to the former.

In the works of Abernethy are many cases of patients that died of apparently nothing but a Pulmonary disease in whom on dissection the Chyliferous Vessels were far more affected than the Lungs.

4. With the Heart. the actions of this organ also are affected by sympathy with the stomach, we find on dissection that oftentimes patients, that for years have complained of Palpitation and other irregular motions of the heart present no mark of disease in this part but that their stomach is morbidly diseased.

I saw this exemplified in the case of a Mrs Cole who died in the Almshouse, she for many years had labored under palpitations of the heart and other distressing symptoms of that part after her death, which was caused by a Cholera Morus, we opened her, and

were astonished to find no morbid appearance in the heart, nor indeed in the stomach or intestines, still her case I feel convinced arose from a disordered state of the functions of her stomach, as after taking any thing into that viscus that in the least disordered it an attack of palpitation was brought on, her case presents an interesting instance of a disease of function assuming the type of one of organisation, and existing for so long a time, 4 or 5 years, independently of an organic disease -

Various diseases attributed by writers to a diseased state of the Stomach.

This subject would lead me into so much longer a disquisition than the nature of this essay would allow that I shall mention but few in addition to those alluded to in the foregoing pages.

Neuroses the whole of this class of most distressing and perplexing diseases have been said by many

authors to originate from a disorder of the stomach.
Fevers In the greater part of the febrile affections
 the stomach appears to be the first part attacked
 hence the importance of our early attention to
 removing the exciting cause by emetics or purgatives.

Diabetes this disease has also been attributed
 by many to a diseased state of the stomach, they
 state that remedies addressed particularly to it
 will cure the disease of the urinary organs.

Buboes In the description of buboes; making
 a forcible and repeated impression on the sto-
 mach by means of emetics, has proved highly
 beneficial, the same may said with regard
 to *Scorbia humoralis*.

Many diseases of the eye have been attributed
 to a disorder of the alimentary system. Richter
 especially advocates this doctrine he attended par-
 ticularly to, and directed his remedies to that
 part of the body with great success.

Mr Dawson of London found emetics of great

utility in the Egyptian Ophthalmia, a corroboration of this practice is to be met with in P. Wm Adams.

But enough has been said to prove the extreme importance of attending to the Stomach in determining our mode of practice, that the stomach is an organ possessed of great sensibility and sympathy, and when performing its functions whether natural or diseased, to bring others into its sphere of action and to render them more or less dependant on it.

In the foregoing pages I have endeavored to express the strong sense I entertain of the importance of the stomach, that this is very imperfectly done I am well aware, that many errors exist I am afraid but even as such I hope that they may be viewed with candor and indulgence—

